

AMENDED CLAIMS

[received by the International Bureau on 20 May 2005 (20.05.2005);
original claims 1-5 replaced by amended claims 1-8 (2 pages)]

1. A method of making epoxyorganoalkoxysilanes comprising reacting an olefin epoxide with an hydridoalkoxysilane in the presence of RhCl(di-tert-butylsulfide)₂ catalyst, the reaction being free of the presence of a stabilizing agent, the reaction being carried out at a temperature in the range of 70-75 °C, and the olefin epoxide being present in the reaction in a molar excess of 5-25 percent over the stoichiometric amount necessary to react with the hydridoalkoxysilane.
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- 10 2. The method according to Claim 6 in which the olefin epoxide is a composition selected from the group consisting of limonene oxide, 4-vinylcyclohexene monoxide, allyl glycidyl ether, glycidyl acrylate, vinyl norborene monoxide, dicyclopentadiene monoxide, and 1-methyl-4-isopropenyl cyclohexene monoxide.
- 15 3. The method according to Claim 6 in which the hydridoalkoxysilane is a composition selected from the group consisting of trimethoxysilane HSi(OCH₃)₃, triethoxysilane HSi(OC₂H₅)₃, tri-n-propoxysilane HSi(OC₃H₇)₃, tri-isopropoxysilane HSi[(OCH(CH₃)₂]₃, methyldimethoxysilane (CH₃)HSi(OCH₃)₂, methyldiethoxysilane (CH₃)HSi(OC₂H₅)₂, dimethylmethoxysilane (CH₃)₂HSi(OCH₃), dimethylethoxysilane (CH₃)₂HSi(OC₂H₅), and phenyldiethoxysilane (C₆H₅)HSi(OC₂H₅)₂.
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4. The method according to Claim 6 in which the olefin epoxide is 4-vinylcyclohexene monoxide and the hydridoalkoxysilane is trimethoxysilane HSi(OCH₃)₃.

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5. A method of making epoxyorganoalkoxysilanes comprising reacting an olefin epoxide with an hydridoalkoxysilane in the presence of $\text{RhCl}(\text{di-tert-butylsulfide})_2$ catalyst, the reaction being free of the presence of a stabilizing agent, the reaction being carried out at a temperature in the range of 65-95 °C, and the olefin epoxide being present in the reaction in a molar excess of 5-25 percent over the stoichiometric amount necessary to react with the hydridoalkoxysilane; the olefin epoxide being selected from the group consisting of limonene oxide, 4-vinylcyclohexene monoxide, allyl glycidyl ether, glycidyl acrylate, vinyl norborene monoxide, dicyclopentadiene monoxide, and 1-methyl-4-isopropenyl cyclohexene monoxide.
- 10 6. The method according to Claim 10 in which the reaction temperature is in the range of 70-75 °C, and the olefin epoxide is present in the reaction in a molar excess of 10 percent over the stoichiometric amount necessary to react with the hydridoalkoxysilane.
- 15 7. The method according to Claim 10 in which the hydridoalkoxysilane is a composition selected from the group consisting of trimethoxysilane $\text{HSi}(\text{OCH}_3)_3$, triethoxysilane $\text{HSi}(\text{OC}_2\text{H}_5)_3$, tri-n-propoxysilane $\text{HSi}(\text{OC}_3\text{H}_7)_3$, tri-isopropoxysilane $\text{HSi}[(\text{OCH}(\text{CH}_3)_2]_3$, methyldimethoxysilane $(\text{CH}_3)\text{HSi}(\text{OCH}_3)_2$, methyldiethoxysilane $(\text{CH}_3)\text{HSi}(\text{OC}_2\text{H}_5)_2$, dimethylmethoxysilane $(\text{CH}_3)_2\text{HSi}(\text{OCH}_3)$, dimethylethoxysilane $(\text{CH}_3)_2\text{HSi}(\text{OC}_2\text{H}_5)$, and phenyldiethoxysilane $(\text{C}_6\text{H}_5)\text{HSi}(\text{OC}_2\text{H}_5)_2$.
- 20 8. The method according to Claim 10 in which the olefin epoxide is 4-vinylcyclohexene monoxide and the hydridoalkoxysilane is trimethoxysilane $\text{HSi}(\text{OCH}_3)_3$.